

Appl. No. : 10/810,789
Filed : March 26, 2004

IN THE CLAIMS:

Please cancel Claims 1 – 10.

11. (Withdrawn) A package test device comprising:
a test die comprising a non-functional die having a top layer configured for package testing and having two or more pads;
a package enclosing the non-functional die;
two or more contacts external to the package, the two or more contacts configured to provide electrical access to the non-functional die; and
two or more conductors extending between the two or more contacts and the two or more pads.
12. (Withdrawn) The device of Claim 11, wherein the two or more contacts comprise wire leads or solder points.
13. (Withdrawn) The device of Claim 11, wherein the top layer further comprises one or more conductive traces extending over the top surface.
14. (Withdrawn) The device of Claim 11, wherein the top layer further comprises one or more conductive traces extending directly between pads.
15. (Withdrawn) The device of Claim 11, wherein the conductors comprise wirebonds and the pads are configured to accept a pressure forced bond between a wirebond and the pad.
16. (Withdrawn) The device of Claim 11, wherein the pad comprises a bonding pad or a bump pad.

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17. (Withdrawn) The device of Claim 11, wherein the test die is electrically connected to the package using a flip chip operation on via two or more solder bumps.

18. (Withdrawn) The device of Claim 11, wherein the two or conductors comprise wire bonds.

Please cancel Claims 19 – 23.

24. (Amended) A package test device comprising, in combination:

at least one non-functional die resembling a functional die, the at least one non-functional die having at least a first pad and a second pad and at least one electrical path between a first pad and a second pad;

a package substantially surrounding and protecting the at least one non-functional die, wherein the package further comprises at least two external connection points which provide electrical access to the at least one non-functional die from an outer portion of the package to test the ability of the package to protect and contain the at least one non-functional die.

at least one conductor having first end coupled to the first pad and a second end in electrical contact with at least one of the at least two external connection points; and

at least one conductor having first end coupled to the second pad and a second end in electrical contact with at least one of the at least two external connection points.

25. (Previously Presented) The device of Claim 24 wherein the package comprises at least one of a package design and a material set to determine the capability of the package to protect the at least one non-functional die resembling the functional die and thereby facilitate rapid re-design of the device.

26. (Previously Presented) The device of Claim 24, wherein the at least one electrical path comprises two electrical paths capable of being established at different electrical potentials.

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27. (Previously Presented) The device of Claim 24 wherein the at least two connection points comprise wire leads or solder points.

28. (Previously Presented) The device of Claim 24 wherein the at least one non-functional die consists of two or more electrical paths, one or more layers of metal and one or more layers of insulator.

29. (Previously Presented) The device of Claim 24 further comprising at least one functional die, the at least one non-functional die and the at least one functional die configured as a multi-chip module to test a material set and a package design for a package having more than one die.

30. (New) A package test device comprising:

a test die comprising a non-functional die having a top layer configured for package testing and having two or more pads, wherein the top layer further comprises one or more conductive traces extending over the top surface.

a package enclosing the non-functional die;

two or more contacts external to the package, the two or more contacts configured to provide electrical access to the non-functional die; and

two or more conductors extending between the two or more contacts and the two or more pads.

31. (New) The device of Claim 30, wherein the two or more contacts comprise wire leads or solder points.

32. (New) The device of Claim 30, wherein the top layer further comprises one or more conductive traces extending directly between pads.

33. (New) The device of Claim 30, wherein the conductors comprise wirebonds and the pads are configured to accept a pressure forced bond between a wirebond and the pad.

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34. (New) The device of Claim 30, wherein the pad comprises a bonding pad or a bump pad.
35. (New) The device of Claim 30, wherein the test die is electrically connected to the package using a flip chip operation on via two or more solder bumps.
36. (New) The device of Claim 30, wherein the two or conductors comprise wire bonds.